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May/June 1961

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Contents — May/June 1961

2 **Mr. Executive**
"Management of machines is a skill; management of men, an art."
Robert M. Wald

5 **What Are We Trying to Do?**
" . . . whatever it is, the objective must be defined."
C. C. Chase

9 **How to Organize Effectively for Operations Research**
" . . . it now appears that OR techniques stand on the threshold of making major break-throughs . . . "
Clifford J. Craft

14 **Placing the Systems and Procedures Function in the Organization**
(Part III of a 5-part article)
A. Richard De Luca

24 **Coping with the Negativist**
" . . . the non-directive response can be one of his very effective tools in dealing with the negativist."
A. Malo

28 **Why Most Speeches Fail**
"The speaker who does not prepare his material, who has not learned how to present it, and who does not have a message worth listening to is the reason "Why Most Speeches Fail."
Wilbert E. Scheer

32 **Games**
" . . . the educational value of simple games appears to be worth while, even when not exactly realistic."
Roger L. Sisson

36 **Book Reviews**
The Theory of Linear Economic Models
Accounting Systems
Men, Money, and Motivation

39 **Editorial**
The Perfect System
Mortimer J. Sullivan

Mr. Executive

Robert M. Wald

▶ A major feature of our time is the continuing search for top executive talent. It has become apparent that the price to a company of poor executive leadership may well be the business itself. Under such circumstances, the best is none too good, and competition for the best is intense.

As consultants to management, systems men have occasion to note the scarcity of men who possess the experience and the abilities necessary to be effective managers. Many companies are forced to settle for second-best individuals with long experience in the company, but with limited supervisory or administrative competence. In instances where companies have brought men in from the outside, they find it difficult to attract the kind of person they really want and need. Salary increases, stock options, employment contracts, and a variety of deferred compensation plans reflect the efforts companies make to entice and hold qualified managers.

Population statistics indicate that this situation is going to become worse before it gets any better. Although our general population is on the uptrend — 20 to 30 million in the next ten years — the number of young workers between the ages of 25 and 45 is still decreasing. It has been estimated that this shrinkage will amount to two million people in 1965. Yet this age group represents the greatest source of management personnel for the next ten years.

At the same time, business generally is having to strive for greater productivity with the same number of, or fewer, employees. This, in turn, is leading to greater emphasis on technological improvements and to increased specialization of personnel. Ten years ago the term "automation" had hardly been coined; today it is a sort of magical password in American industry. Present and immediate needs have already made the trend toward specialization very pronounced. Witness the upsurge in college enrollments in special areas, and the fact that the number of job titles is growing at an unbelievable rate. Entire companies employing thousands of people now exist only to do research and developmental work. Also, it is well known that various research men, engineers, and production specialists can make their greatest contribution to

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business outside of the general management field. And again, the most fruitful reservoir of specialized people is the 25 to 45 age group.

Management's New Role

The search for top-level executives is further aggravated by a changing concept of management's responsibilities and obligations. Our early business leaders such as the Rockefellers, Vanderbilts, Astors, and Carnegies were by and large not concerned with any one business. They were financial manipulators, who had significantly more interest in quick profit than in developing a lasting business. Also, in the majority of instances, these men *were* the business. They were aggressive in finance, production, and distribution; they ran their enterprises with an iron hand, delegating very little meaningful authority and solving problems with individualistic vigor.

Today's executive departs radically from the norms and stereotypes established years ago. Part of the answer is governmental controls. Another part concerns the fact that although production, distribution, and finance still represent ever-present problems, concepts, skills, and administrative machinery for their solution are now available. Therefore, management's primary task today is to establish and maintain a basis for productive teamwork and cooperation. Using the "tools" and special techniques of product research, production, distribution, and finance, the great industrial leaders of the present are also making real strides in solving some of our human relations problems. Management's task has changed considerably. Today the relative emphasis is more on what the executive is *supposed to be,* rather than on what he is *supposed to do.*

Since the end of World War II, executives have been asked to provide leadership and direction considerably more than technical knowledge. This implies that highly skilled scientists and professionals who "paint themselves into a corner" will be inexperienced in broad supervisory and administrative activities. Therefore, if executives are to be drawn from the ranks of specialists, more attention will have to be paid to providing opportunities for those who have technical knowledge to acquaint themselves with the principles of leadership as well as the various overall phases of a business.

What an executive is supposed to be can perhaps best be illustrated by listing a group of background or psychological characteristics typical of the emerging top-management man. A systematic, case-history study, which our firm conducted, shows that they occur with surprising consistency in successful corporation officers. The prototype, therefore, of the successful executive emerges as follows:

1. He is a native-born American, a product of the American culture, since he was born of parents who were themselves native-born.
2. He is a product of an above-average socio-economic background. His father's occupation was in the professional or management field.
3. He is a product of a happy home and family life. His family background nurtured sound personality development, self-confidence, and stable personal adjustment.
4. He indicates an above-average background of academic training.
5. He was a leader in school, community life, and organizations before entering business.
6. He was healthy as a youngster and throughout his working career.
7. He enjoys a family life which encourages maximum utilization of his abilities. His wife and children accept, understand, and have made good adjustment to the demands of his management responsibilities.
8. He has superior mental and analytical ability.
9. He gets along well with others.
10. His predominant interest is in people and in encouraging their cooperation and good relationship in business.
11. He is aggressive, resourceful. He seeks new work to be done and new methods of doing it.

12. He is at least average in his emotional adjustment and self-confidence.

Characteristics of executives are, of course, conditioned by the organizations which employ them. So, although the above are characteristics of top-level managers with a high degree of consistency, they still represent broad, rather than specific, guidelines. In an age of increasing specialization, Mr. Executive is a coordinator of human effort and a professional manager of men. His major responsibility is to coordinate the various phases of a business, rather than to master complex technical details.

A Renaissance of Aggression

In considering the profile of the emerging American business executive, particular attention should be paid to two major and seemingly incompatible factors: human relations and aggressiveness. During the '50's, emphasis on the former overshadowed the latter. In the writer's opinion the pendulum has swung a bit too far into human relations so that the premium placed on well-directed, considerate aggressiveness is now somewhat less than desirable. A more realistic balance between the two factors is needed. Merely keeping pace with the dynamic qualities of the economy today demands a forceful approach by executives. In other words, in addition to emphasizing coordinative and leadership skills necessary for team effort, let us stress aggressive qualities related to formulating objectives, "charting the company course," planning, and being open-minded in searching out and exploring new opportunities which will build the company and enhance its competitive position. Obviously, no organization can stand still today and continue to be successful. Top-level executives must be able, through example and personal forcefulness, to lead the team toward ever-increasing business growth and development.

We are faced with an analogous situation in the field of education. During and immediately after the war most of the authorities in education emphasized that the major purpose of education was to foster "good personal adjustment" and "wholesome personality development." Thus, the majority of teachers trained within the period were more concerned with "how to teach" than with "what to teach." Then, the public began to notice large numbers of high school and college graduates who could not even read adequately. The resultant outcry is echoing in classrooms and at school board meetings throughout the nation.

The competent executive may not be the authoritative type because of specialization, but *he must possess a wealth of pioneering spirit.* He must balance human relations skill and aggressiveness within the frame-work of the other broad dimensions of executive success already mentioned.

The Job Ahead

The changing concept of management and the fact that there is an impending decrease in the 25 to 45 age group have significant implications both for present-day executives and for young men beginning in business. These facts imply that the young worker needs to stand back and look at himself in relation to his vocational goals. He should ask himself such questions as : "Can I make my greatest contribution to business through a specialty or in management?" "If I lean toward management, do I have the characteristics typical of today's emerging executive group?" and "Am I getting the kind of experience necessary to make the best possible use of my abilities, interests, and personality characteristics?" In this age of specialization, the young man interested in management must beware of experience that confines and of pursuing a specialty beyond the point of return. A specialty may be a stepping-stone to management, but it must be reinforced by training and experience in leadership and group dynamics. To a large extent Mr. Executive's future and success lie with people rather than things, with human relations rather than technical specialties. He must be provided today with a benign climate in which his leadership qualities may thrive and grow. The law of supply and demand operating in the field of executive talent makes him an increasingly rare commodity to be nutured and treasured. The challenge then lies not so much with machines as with men. Management of machines is a skill; management of men, an art. **s/p/a**

What Are We Trying to Do?

C. C. Chase

▶ Three men were engaged in tearing down a dilapidated building preparatory to erecting a church. When asked what they were doing, the first man growled, "I'm tearing down this dump." The second said, "I'm clearing this land," while the third said, "I'm helping to build a cathedral." Yet all were doing the same thing.

A group of systems people working on an order-billing job might give similarly disparate answers. The obvious one is, "I'm working on an order-billing procedure." But, with equal justice they might say, "I'm saving the company money," or "I'm bettering our service," or "I'm improving our billing accuracy." They might all be right.

A good system usually accomplishes *more* than one result. But when a project is approved initially, management must have some one, major, hoped-for result in mind. It is essential that this objective be defined at the outset since the possible alternatives might conflict. It should be defined by management, not by the men who do the work. Nor should we be lulled into a false sense of security by what management says. Too often, we are so elated at being given a new assignment — presented with a new challenge — that we neglect to ascertain the objective. Management wants a new order-billing system. That's enough to know, and off we dash into the fray.

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After graduating from Massachusetts Institute of Technology, where he majored in Engineering Administration, he joined the Harshaw Chemical Company of Cleveland where he eventually became Manager, Systems and Procedures.

Even in the Army, Chase was not entirely divorced from systems work. Almost his entire service was on the staff level in supply and logistics. He terminated his service as A-4 of the IX Air Defense Command.

Mr. Chase has been a contributor to professional periodicals for many years. He has addressed International Systems Meetings on several occasions. He has conducted seminars for New York University, the University of New Hampshire, The Society for the Advancement of Management, NOMA, and others.

But it isn't enough. *Why* does management want a new order-billing procedure? Certainly not for the sake of change. Surely they had some purpose in mind. They may also have had some reservations. What they might have meant to say could have been, "We want to get our orders out faster at no increase in cost." This puts quite a different complexion on the problem.

A Lesson

The objective should not be assumed, nor should it be taken at face value. An actual case will illustrate this point. The assignment was stated by management to be "a review of office procedures." After two months work, the finished report was being presented to the president. He rifled through the 150-page masterpiece and said, "That's fine, but what have you done about *that woman?*" His sole interest lay in "short-circuiting" an obnoxious employee so that she could be retired. Fortunately, the reviewer had arrived at the same conclusion and had so recommended. But this specific conclusion could have been reached in less than a week. No one had defined the real objective.

One of the cardinal principles of war is the principle of the objective. In order to function effectively, a military force, be it one man or an army, must have an objective. The objective may be small, like a tree, or of moderate size, like Hill 604, or enormous, like the continent of Europe. It is only after the objective has been defined that it is possible to plan the force required, the equipment and supplies needed, the points of attack, the avenues of approach, in short, everything that is needed to attain that objective.

Textbooks on tactics say that the objective should be clearly visible on the ground. This is another way of saying, pick something the troops can see — something they won't lose sight of in the heat of battle. In systems work we can't always select a prominent objective, but we can constantly remind ourselves to keep our objective in view. If we don't, we may lose our sense of proportion and value.

What, then, are some of the more usual objectives of systems work? Probably the most common one is economy. This is achieved by handling an increasing volume with a static labor force, or a static volume with a decreased force. Less spectacular results may be achieved through reductions in expenditures for capital equipment, supplies, or equipment rental. The attainment of other objectives may result in economy as well, but usually not anything so directly visible in the payroll and cash disbursements journals.

While it is true that, in an expanding economy, systems work results in fewer lay-offs than its detractors may suppose, there is, nevertheless an adverse sociological implication in the objective of doing a job cheaper. Sooner or later this must mean dispensing with people. This is a disturbing thought.

But some solace may be found in a quotation from Winston Churchill who said, "The general march of industrial democracy is not towards inadequate hours of work, but towards sufficient hours of leisure. That is the movement among working people all over the country. They are not content that their lives should remain mere alternations between bed and the factory; they demand time to look about them, time to see their homes by daylight, to see their children, time to think and read and cultivate their garden — time, in short, to live." In less spectacular language you hear the same complaints every day. People want more time for cultural pursuits, sports, hobbies, and family and religious life. The only difference is that Churchill made that statement in 1908 when people really had something to complain about. So while we systems people may be responsible for some temporary dislocations, we will cause no permanent breaks, and the aggregate of our efforts will operate eventually to provide the office worker with more leisure, and the economic affluence to enjoy it.

Additional Goals

Besides saving money, what are some of the other objectives of systems work? A major one is speed. Speed is essential in modern paperwork procedures. Office workers scarcely do anything except go to lunch without being told to do it by a piece of paper. This is pretty generally true in the factory, too. So

one of the objectives of systems work is to speed the flow of paper.

Increased speed not only results in more timely reports but it results in faster delivery of products, quicker invoicing, faster collections and, consequently, less capital invested in accounts receivable. Speed may also reduce procurement lead time, accelerate material flow, reduce the time required to report, schedule and control production, tend to eliminate the lag between supply and demand and thus reduce capital requirements for raw materials, work in process and finished goods — not to mention the money which would not be tied up in obsolete stocks and less-than-fully utilized plant and equipment.

Perhaps these advantages of speed seem remote — more like a course in economics than an objective of a business system. In a sense they are remote. Very often it is next to impossible to get a quantitative measure of the overall results attained. Sometimes a very accurate guage can be obtained. A down-to-earth example of the monetary value of increased speed, is the case of clearing vendors' invoices for payment. If this isn't done fast enough, cash discounts are lost.

Closely allied to the objective of speed is that of control. Frequently one implies the other. The best organized reports are worthless if received after the conditions they reflect have changed. Conversely, reports received quickly must be accurate as well. Usually the best management control reports are a compromise between requirements for utmost speed and pinpoint accuracy.

There are other types of control besides management reports. Accounting control must be built into most office systems, although control itself may not be the objective of the system. Take for example a system designed to speed up invoicing. Into this procedure we must build controls which make it impossible to ship goods without billing it, or to bill goods without booking the receivable. Here, control is secondary, but a vital adjunct to the invoicing system.

On the other side of the coin might be a system for reporting on imprest funds. On the surface, the purpose of such a system might appear to be the replenishment of the funds, or perhaps the reporting of expenses. While the system will accomplish these ends, its basic purpose is to assure that someone doesn't have his hand in the till, and that the funds are being expended wisely. In short, the objective of such a system is control.

Somewhat analagous to control as an objective is quality improvement. Or, let's put the words together and call it quality control. This has been a factory term which has only recently been applied to the office. Sometimes the emphasis is on quality — sometimes on control. As an illustration, take the invoicing operation again. Here we don't care so much about a pretty product. We are concerned with assuring ourselves that the figures in the lower right-hand corner represent the true aggregate selling price of the goods and services furnished. In our systems design we either control the quality of that figure automatically, or we require that it be checked to be sure that it's right.

In the case of correspondence, no money is directly lost because of a sloppy looking letter. But prestige is. So systems work in a central stenographic pool might revolve around ways and means of improving the appearance of the product. Of course there are stenographic pools which are paid piecework. In this case substandard work is scrap — money out of someone's pocket. Quality here must be controlled for pay roll purposes, as well as for prestige.

Another systems objective is service. Service implies speed, accuracy, and quality as a matter of course. It also implies the ability to do things which, in a sense are not routine, or not part of the every-day business pattern. One illustration is the handling of complaints. Take the case of utility billing. When electronic computers were first considered for business use, the preparation of utility bills seemed like a natural application. Here was a large volume of repetitive work involving tremendous amounts of raw data, numbers of alternate methods, and mathematical operations ranging from the simple to the complex. All grist to the computer's mill.

One or more trade associations appointed committees to study the problem. Experts were

retained. Suppliers bore down hard. The unanimous opinion, backed by experimental proof, substantiated the original premise. Here was a beautiful computer application. Then came that wee small voice which we systems men often hear and too often fail to appreciate. The voice said "Yes, but." Yes but, what do we do when Mrs. Jones calls in and says she was billed for too many kilowatts or cubic feet?

Now there are many practical answers to this problem. We can tell Mrs. Jones that the meter reader made a mistake and if she'll just sit tight it will all straighten out in next month's bill. Or we can tell her we'll look it up and call her back. Of we can ask her to hold the 'phone while we look into the computer and get the story. The utilities, being very public-relations conscious, rejected the first two alternatives and sent the experts scurrying back to find out just what looking into the computer really amounted to.

Their findings, I am told, were a little startling. After the correct interrogation procedure was framed and introduced, the current billing job would grind to a halt, tapes would spin, mechanisms would clack and out would spew all of the facts pertaining to Mrs. Jones and her account. This might take as long as three minutes. Three minutes of computer time is worth a respectable amount of money. But this didn't disturb the utilities at all. What did disturb them was having an irate customer hanging on the 'phone for three minutes getting madder by the second. For this reason, and this reason alone, they rejected computers for billing.

Since that time, computers have been designed which permit so-called "off-line" interrogation. Rapid access memories have considerably improved in speed and capacity. So the original arguments are no longer valid. But the point is that here a complex and otherwise valid system was not installed simply because it could not provide the service which the potential user deemed essential. It could not meet one of the basic objectives.

Finally, an objective of systems work which often goes unrecognized is to establish routines. Obviously, the end product of systems work is a routine, a formalized method by which work is to be done. However, the objective for which the system was created may have been something else — to break a bottleneck, to improve service. The routine was established as a means of attaining that end. But there are cases where the mere formalizing of the routine is an end in itself.

This usually comes about in situations where turnover or rapid growth is creating training problems. There may be nothing seriously wrong with present methods or, for that matter, they can be in terrible shape. The immediate problem, though, is to find out what present methods are. Next, they must be reduced to written routines. Finally, the routines must be manualized. These become a textbook which can be handed to a new employee, who may then be told, "Learn this and you'll know your job."

Conclusion

Despite what anyone thinks when starting a job of this kind, it will probably be found that the system being manualized leaves something to be desired. It may contain anything from soft spots to quagmires. In a job of this kind we must avoid falling into traps. Bad as the system may be, it should be reduced to writing, because that is the objective. Later, when the emergency is over and changes are feasible, the problem may be approached again with much of the preliminary work already done.

These, then, are some of the objectives of systems work:

To improve the following aspects of a system —

Economics
Speed
Control
Quality
Service

As we have seen, they seldom occur alone. One may be used to limit another. But whatever it is, the objective must be defined. It must be defined by someone in authority. If it is not defined and observed and attained, our most earnest endeavors may, in the end, please no one but ourselves. And this, we must all agree, cannot be our primary mission in life. **s/p/a**

How to Organize Effectively for Operations Research

Clifford J. Craft

Growth of "OR"

▶ Operations research has taken root in American industry and is growing fast. These are the obvious conclusions to be drawn from a comprehensive survey conducted by the American Management Association.[1] The survey's findings and implications should be of interest to every alert executive—whether or not his own company is using "OR."

Questionnaires about operations research activity were sent to 5,325 individuals representing 3,150 organizations throughout the United States and Canada. Included in the sample were industrial members of the Institute of Management Sciences and the Operations Research Society of America, individuals who had attended AMA meetings on operations research, and the presidents of 2,700 companies with more than a thousand employees.

Usable replies were received from 729 individuals representing 631 different companies, non-industrial institutions, and consulting firms. Slightly over 10 per cent of the 3,150 companies queried reported that they were engaging in some operations research activities. The size and character of the response are such as to be significantly representative of those firms that are doing operations research to some significant degree.

Of the 631 companies that replied, 324 (51.3 per cent) said that they are using operations research. Of 307 firms not making use of OR, 144 said that they were considering such an activity, and 163 said they did not intend to begin.

Of the 288 companies that offered evaluations of their programs, 55 said they have realized appreciable savings. Considerable improvement in operations was reported by 75 companies; 167 felt it was too early to tell. Improved operations were reported by aircraft companies, utilities, and transportation

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1. *Management Controls*, Vol. VI, No. 3, published by Peat, Marwick, Mitchell & Co., 1958.

firms more often than by companies in other industry categories.

Survey participants also were asked whether they could identify actual and/or future dollar savings attributable to their operations research activities. The number of answers to this question was too small to be significant, but some of the amounts were not.

Seventeen companies reported actual savings of more than $100,000. Five companies cited savings of more than a million dollars. Both a chemical company and a petroleum firm said they had saved more than two million dollars. Anticipated savings of more than $100,000 were indicated by 23 companies; of more than $300,000 by 18 companies; and of over a million dollars by five.

Resistance to "OR"

Despite this widespread interest in OR, there is often resistance to the extension of OR techniques into management. This is natural, of course, as with the introduction of any new technique. However, some of the criticism is justified. What are some of the attitudes regarding OR that one might encounter in dealing with upper management?

Here there is no intention of "knocking" OR. OR has clearly demonstrated its practical value to management as an aid in decision making. On the other hand, anyone who has worked in this field recognizes several basic problems that must be overcome in order to sell OR to upper management. A few of these obstacles to the further development of OR are:

1. OR technicians and OR articles have tended to generalize too much. Grandiose and sweeping claims have been made, and they have been based upon very limited practical experience.

2. Too many of the much talked-about applications are in Government, and as every business manager knows, the problems of Government are quite different from those in industry.

3. The term OR has been misused. Much that is not really OR has been called OR. On the other hand, a lot of good OR work has been done for years by marketing research people and industrial engineers, but it just has not been labeled OR or the OR experts have not been inclined to recognize it as pure OR.

4. A lot of the scientific work which has been done has very little relation to actual practice. It has been too theoretical and has involved too much "ivory tower" thinking.

5. Some OR work has been unsuccessful, and some of the techniques have been misapplied. Naturally, this has tended to give OR a bad reputation in some business circles.

6. OR has been "oversold" to management by some of the OR technicians. They frequently have made too sweeping claims for what OR can do.

7. Too much has been said and written in OR terminology and not enough in simple language that is understandable by management.

Overcoming the Resistance to "OR"

As with the introduction of any new management philosophy or action program, there is a "right" way to get started. It is generally agreed that one of the most important pitfalls to avoid is antagonism. This is very hard to accomplish in the case of OR. However, one practical approach to this problem is to get widespread participation in the launching of a new OR program through the organization of a management committee to review and screen potential areas of application, to give general guidance to a research team, and to act as a sounding board in the development of any recommendations in the solution to a problem.

Some of the other ways of overcoming the general resistance to the development of OR are:

a. Start out modestly. Do not organize on a grand scale. At the outset, begin with just one OR technician, and team him up with a practical investigator.

b. Undertake short-range projects. It is imperative that the OR group establish

a reputation of accomplishment. Too much effort devoted to long-range research will tend to dampen management's enthusiasm for OR.

c. Pick areas with high potential payoffs that can be achieved in a short period of time and with minimum manpower requirements.

d. Do not insist on OR answering to the president of the company.

e. Tie in with a department or person in upper management which already has the "entrees," for example:

   1. Comptroller's Department
   2. Systems or Methods Department
   3. Industrial Engineering Department
   4. Management Consulting Group

f. Do not oversell OR.

g. Do not use OR techniques that are any more complicated than is necessary to do the job. Do not use mathematics just for mathematics' sake. OR specialists tend to go overboard and use more mathematics than is necessary. This is one of the secrets of a good technician — that is, his ability to do a job as simply as possible and do it well.

Payoffs from Operations Research[2]

There are three major areas in which operations research can provide payoffs. The first is in advising management as to which alternatives in a specific problem yield the best decisions or policies. Thus, specifying the best factory-to-warehouse shipping levels in a multi-plant warehouse operation would presumably yield the optimum freight bill. Secondly, operations research may develop methodologies for making various kinds of optimum decisions. An example of this might be a new method of sales forecasting. Finally, operations research may educate others in management to review systematically all possible alternatives and to develop methods for yielding the best decision throughout a company.

Payoffs of the first kind — specific decision making in a given case — are usually measurable on a "before and after" basis. That is, in the example above, there would have been an actual or imputed freight bill to start with. The operations research solution would yield a new freight bill; the difference is the payoff. Such payoffs have been known to run from rather modest amounts to several hundreds of thousands a year. The limitations of the payoff are generally fairly well known in advance. In one specific case a major operations research study resulted in changes in sales promotion techniques at no loss in efficiency, with resultant savings of $250,000 to $300,000 per year. The cost, incidentally, was in the neighborhood of $40,000. In another case, a company with $4,000,000 of annual sales saved approximately 10 per cent of the cost of sales (or about $250,000) as a result of a study of its inventory system.

Payoffs of the second kind, the development of decision-making methodologies, are also very often measurable in similar terms. However, in many cases the methodologies themselves may be part of a larger system of studies and may have many intangible results. Thus, the development of better forecasting methods extends its consequences to all areas of a business, and the payoff, while clearly there, may not be isolable. Similarly, development of methods for assisting in the making of broad strategic decisions will never be measurable on a "before and after" basis. One can only say, this probably would have happened if the study had not been undertaken. However, the payoffs are nonetheless real, and could make the difference between success and failure in the long run.

Similarly, the third kind of payoff, the education of others in management, is very much a matter of faith. "Better equipped, we are in a better position to play; better trained, we are in a better position to win." In the long run, this payoff may exceed the other kinds by incalculable amounts, but we are in no position to put a capital value on it today. Fortunately, it can be achieved concomitantly with problem solutions of both the above types, and, therefore, is in an excellent position to pay its own way.

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2. "Management Research," *Systems and Procedures*, Victor Lazarro, Editor, (Prentice-Hall, Inc., Englewood, Cliffs, N. J.), 1959.

Initial Management Decisions

The business executive will naturally ask a host of questions of himself and others about the best way to get started, once he has decided to embark on an OR program:

What first steps must I take?

Whom do I need to operate the program?

What subjects should I select?

The potential areas of application should have been earmarked as part of the decision to apply these techniques. The literature treats the subjects most susceptible to a concentration of OR effort at great length and it becomes more a task of management identifying itself with those areas which seem to be most important initially.

Next, of course, comes the recruiting and appointment of a qualified OR specialist or manager who will provide the technical leadership for the work and determine the complexion and composition of the study team. This is not an easy person to uncover, but the relative success or failure of the selection process at this juncture will have a major influence on all the events to follow.

If it requires 8 to 12 months or longer to find the right man, the effort will be well rewarded. The operations researcher must show broad competence over a range of scientific disciplines; for example, in the field of mathematics, he would need to know probability theory, statistics, calculus, and differential equations, among other subjects.

After selection of the OR leader, he should be backed up with individuals thoroughly acquainted with all phases of the company's operations. There are some conflicting views on this lower level staffing, but it has been generally true that solutions are produced more swiftly when the study team includes persons with a rather comprehensive knowledge of the business system.

This kind of team composition also emphasizes a practical rather than a theoretical or ivory-tower approach. The stress on practical results is a natural one and is not meant to discourage the longer-term pure research work. In the beginning it may well be politic to "come up with something good soon" to overcome any resistance or lingering doubts from unconvinced managers or executives.

The assignment of operating personnel to the team, then, has the advantage of "leveling" the work and giving it a practical tone, but it is difficult to find individuals who have been successful operating executives and will accept this kind of study assignment. The pace is considerably different, as is the nature of the work. Then there is the problem of communication between scientist and non-scientist. The team leader should always be the qualified mathematician or similar specialist; it takes far too long to educate nontechnical personnel to the point where they can supply dynamic leadership and counsel to operations research work. Rather, the non-technician should be seeking to understand the logic and complex relationship of the mathematical process and how it affects this work. Later he will check on the logic of a solution as he translates the theory into practice.

The non-technician becomes valuable to the mathematician to the degree he can interpret and explain the business system in terms of the language of numbers.

Organization for Operations Research

Ideally, the operations research approach to problems should be a part of the entire decision-making process of a company. That is, every manager, whatever his level, makes decisions. He likes to "optimize" the probable results of his decisions, he wants the "hard facts," he wants them "quantified," he attempts to use every relationship which seems relevant, and he wants to understand the overall process which he is managing. These are the same kinds of objectives at which operations research aims; as a consequence, operations research is broadly compatible with all of the areas of company management.

However, to achieve the state where the operations research approach is used throughout a firm, one cannot "install" it simultaneously at all levels; one can only educate management in the operations research approach and allow it to evolve. This is due to the fact that we are working with a new philosophy and methodology and not with techniques alone.

Because education is time-consuming and expensive on a first-cost basis, and because successful demonstration is good teaching policy, the practical location of operations research in a company is an important problem. Obviously, one will not intentionally locate it in a company to prove that it will *not* be successful. Rather, one generally wants to put it where the operations research team can select managerial problems with a good chance for success and significant payoff.

A first requirement for locating operations research in a company is a sponsor. Operations research does not have to report to this sponsor, but it is essential that it be close to him in the administrative hierarchy. Thus, a good move *not* to make is to have a company president *order* the installation of an operations research group in a manufacturing department several echelons below him without reference to the wishes of the department head. This is, of course, bad management in any case. On the other hand, if the president wishes to sponsor an operations research department, and working in cooperation with a factory manager, he sets up such a group reporting to the factory manager, he is on the right track.

A second requirement in selecting a location for operations research in a company is assurance that it will have ready access to the data which will enable it to view its problems in their entirety. This requirement raises the location up the administrative ladder, but not necessarily to the top. The exact location will depend upon the sponsor and the types of problems to be undertaken. It must be possible, whichever location in the administrative structure is selected for the operations research group, to provide for a team or committee for problem solution which cuts across both operating and staff lines.

Conclusion

Like many another new idea, OR has drawn fire from its detractors and glowing praise from numerous supporters. On the basis of earlier appraisals, it now appears that OR techniques stand on the threshold of making major breakthroughs in support of management decision making, which will eventually lead to totally new concepts in problem solution.

For the present, not enough experience has been generated to permit a rigorous definition of those areas in which OR has the most penetrating impact, but the broad range of application is well known. The findings of many studies repeatedly reveal the singular conclusion that management science has much to contribute to the field of business management. **s/p/a**

SHORT COURSE IN HUMAN RELATIONS

The 6 most important words — I admit I made a mistake.

The 5 most important words — I am proud of you.

The 4 most important words — What is your opinion?

The 3 most important words — If you please.

The 2 most important words — Thank you.

The 1 most important word — "We".

And the least important word — "I".

Placing the Systems and Procedures Function in the Organization

PART III

A. Richard DeLuca

Systems and Procedures is a Staff Agency

▶ An analysis of the various activities carried out by a systems function (as described in the previous issue reveals these essential features relative to the impact of this function upon other elements of the organization:

1. Systems activities can apply to any element of an organization; they deal with managerial improvement in general.
2. These activities concern themselves with improving information flow and data processing — operations which are common to all functions of an enterprise, regardless of organization structure.

Thus it is evident that the systems organization must serve as a staff coordinating agency. Furthermore, in view of its ultimate aim — namely, " . . . the complete coordination of all managerial efforts towards the goal of profits . . . "[1] — it must be so located in the enterprise that it can approach its assignments with an impartial, objective attitude.

It is commonly acknowledged, therefore, that the systems and procedures activity is clearly a staff function. But the question, "where in the organization should this staff group be placed?" does not admit of so simple a solution.

Factors to Consider

A systematic analysis of this problem involves the consideration of three basic factors:

What are the objectives, goals and aims of the systems and procedures function?

What will be the nature and scope of this group's activities?

How much "corporate" prestige and strength will be required by the executive to whom the systems group is to report?

Let us examine each of these factors in detail to gain a clearer explanation of the role each factor plays in determining the placement of the systems and procedures function in the organization.

Objectives of the Systems Function

What specific management needs resulted in the decision to establish a system group? Ideally, a top ranking company executive should arrive at this decision, with the following thoughts in mind:

> This company needs a staff group which can serve the entire organization in a "general staff" capacity. Such a group could develop and apply an integrated program for the solution of the company's organizational and procedural problems, serving our enterprise in the same manner as an outside consultant.

Such reasoning would place the systems function in a staff position reporting to either the chief executive of the company, or to a top

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1. Irene Place, *Administrative Systems Analysis*. Michigan Business Report No. 28, (University of Michigan, Ann Arbor, 1957), p. 65. Hereafter cited as *Place*.

management member such as an administrative vice president. In practice, however, a systems and procedures staff is usually established with one of the following objectives in mind:

a. Development of organization, policy, and procedures manuals.

b. Resolution of operating problems in some specific functional area; e.g., excessively long-cycle time required for processing accounts payable paperwork, inadequate inventory control procedures in production areas, high clerical costs for processing the various forms of paperwork generated by the purchasing department, etc.

c. Development of clerical standards through work measurement programs.

d. Systems analysis and development related to the installation of electronic data processing equipment.

e. Providing office services such as forms control, office layout, records management.[2]

Placement of the systems function in the organization is dependent to a great degree upon the specific objectives which the systems group is intended to serve. For example:

1. If a systems group is to prepare company-wide organization, policy or procedures manuals, it must, to avoid the entanglements of departmental bias, report to a member of top management.

2. Conversely, if such activities are to be conducted solely for the purpose of one operating group, e.g., the controller's department, then it is logical for the systems group to serve in a staff capacity reporting directly to the executive responsible for the management of the function involved.

3. Special circumstances may exist where the systems function is organized to serve another staff function, such as the tabulating and electronic data processing departments.

4. Some systems staffs have been established solely for the purpose of serving some highly specialized activity, such as a production control department in a mass-production plant. If such is the case, the systems group could report in a staff capacity directly to the operating department manager involved.

Nature and Scope of the Systems and Procedures Group's Activities

The second factor which must be carefully considered in determining the location of the systems and procedures function is the nature and scope of the activities of the systems and procedures group.

What specific operations will constitute the work of the systems organization? A survey conducted by the Systems and Procedures Association (SPA) in 1959, involving some 1,150 companies, revealed the following activities as those most commonly performed by Systems and Procedures personnel:[3]

Activity	*Per Cent of Companies Performing*
Procedures Manuals	84
Forms Control	83
Work Simplification	79
Integrated Data Processing (IDP)	74
Equipment Control	61
Records Management	59
Electronic Data Processing (EDP)	57
Organization Analysis	52
Layout Planning	49
Work Measurement	49
Management Audit	25
Operations Research (O.R.)	17

Each of these systems and procdures tasks can be applied to a specific department, to a combination of organizational elements, or to

2. Place, pp. 13-19.

3. From *The Profile of a Systems Man.* (Booklet published by the Systems and Procedures Association, Detroit Michigan, March, 1960), p. 10.

the entire company. Thus, the need for an *independent* systems and procedures organization — one not closely identified in the eyes of management with any one functional area — increases in direct proportion to the extent in which systems work transcends organizational boundaries.

It is noted, in this connection, that in actual practice there is often a significant difference between the stated objectives of the systems and procedures staff, and the actual functions which the systems group performs![4]

Corporate Prestige and Strength of Systems Executive

The third factor to be considered in determining the placement of the systems function is the corporate prestige and the strength of the systems executive.

Is the proposed executive to whom the systems and procedures staff will report, in a position of power and prestige in relation to his associate managers? Is he a powerful enough influence to be able to "back up" and "sell" the recommendations of his staff? These questions are perhaps the most crucial to consider in determining the place of the systems group in the organization structure. This question of authority and power must, of course, be considered in full cognizance of the preceding two factors described above — namely, the objectives and functions of the systems and procedures group. Certainly, a staff with severely limited objectives and activities (i.e., the development of accounting procedures only) could not normally expect to be managed by an executive outside of the function involved (i.e., the financial organization).

But let us remember that systems and procedures staffs, in practice, rarely restrict themselves to limited operations within one element of the organization. We have said previously — and this bears repeating — that the systems and procedures group constitutes a *staff coordinating agency*. The systems executive must be a well-seasoned person with knowledge of all major company functions — an individual capable of working effectively with, and inducing action from, other managers at all levels of the organizational heirarchy. He must also be able to claim the confidence and support of top management.

One other question of vital importance must also be raised in relation to the prospective executive responsible for the operation of the systems and procedures staff: Does he *understand* the systems function? For it is difficult to be enthusiastic about an activity which one does not understand or adequately appreciate. Qualities of the systems manager are discussed in detail in Part IV of this series of articles.

Historical Placement of the Systems and Procedures Function

To which member of company management do systems staffs report, in actual practice? Responses to this question were obtained through two surveys conducted by the Systems and Procedures Association. The following general observations may be made from the data presented therein:

1. Systems activity is far more commonly accepted as a top management responsibility in clerically-oriented enterprises (e.g., insurance organizations) than in production-oriented companies.
2. In production-oriented industries, e.g., manufacturing and utilities, the systems responsibility is most frequently assigned to the controller. It is this writer's opinion that this predominant responsibility assignment to controller is due to the following environmental and historical factors:
   a. The predominant clerical area is often the accounting organization. Standardization of basic accounting functions has long been an *initial* systems assigment.
   b. The reduction of overhead costs, primarily administrative and clerical, has been historically assigned to the controller, who has consequently established systems groups to develop the necessary improvements and controls.
3. A significant reduction is noted in the percentage of systems groups reporting to managers in the lower organizational

4. For an example, see Place, pp. 25-28.

levels. The corresponding increases in the assignments of the systems responsibility to controllers and other top management personnel seems to reflect a favorable trend toward increasing recognition by management of the systems function as an inherent top-management responsibility.

Decentralized Systems Organization

In large companies, a decentralization of the systems and procedures activity may be not only desirable but also necessary for maximum operational effectiveness of systems personnel. The question of determining whether to centralize or decentralize is discussed in Part IV, "Organizing the Systems and Procedures Department." For our present purposes in discussing the question of decentralization, we are concerned only with the reporting relationships between systems groups within the organization. In this respect, three types of conditions may exist:

1. A central systems and procedures staff operates in the area of inter-departmental systems and procedures, while local departmental systems groups independently conduct systems studies, prepare procedures manuals, exercise departmental forms control, and carry out other systems functions for their departments. The local units report to their respective department managers only; no functional authority is exercised by the central systems staff. Any relations between the groups are informal and infrequent.

   Such circumstances do little to promote effective systems and procedures activity for the organization as a whole, particularly when thought of in its more profound aspects as a "staff coordinating agency," an "integrating" activity or "as a management planning, top-level policy and procedure review activity."[5]

2. In the second case, a similar situation exists, with one important exception: the central systems and procedures group, although exercising no "functional" or direct authority over the departmental staffs, establishes a semi-formal working arrangement with the local systems personnel. Such an arrangement may consist of:

   a. The establishment of communication channels via the flow of memoranda and reports;

   b. Periodic meetings, sponsored by the central staff, in which information relating to projects, problems, and plans is freely exchanged;

   c. Joint planning of major systems projects or programs, primarily involving systems of an inter-organizational nature.

   While this second condition under which decentralized systems and procedures units operate represents a distinct improvement over the first condition, it also contains some defects from the point of view of the enterprise considered as an integrated whole. There are two basic problems inherent in such a condition:

   (1) There is a lack of common leadership. While the exchange of information and the communication flow may assist in developing *coordinated* systems and procedures activity, it cannot in any way insure the harmonious, integrated operation of the various systems elements toward a common goal —simply because *there is no "common goal"!*

   Systems managers are human. Each manager *must* establish his own goals. They may, or may not, agree with or "fit into the big picture" which the manager of the central systems staff has developed. There is no functional or direct supervisory relationship. In addition, to further complicate matters, the local systems heads report to individual department managers, who ordinarily have their own ideas about which systems projects are important. Thus, the initiation and accomplishment

5. Place, p. 17.

of a major systems project, unless strongly backed by top management, becomes an highly difficult task. The variety of problems which can—and do—arise under such circumstances is immense.

(2) The second problem is a psychological one, perhaps more important in its overall impact on the effectiveness of the systems and procedures staff than the lack of common leadership discussed above. It is this: The systems analyst is, by the nature of his work, a *critic.* While his criticism is constructive, this element nevertheless tends to hamper his effectiveness if he is assigned to a position in which he must analyze the work of his immediate superior. Yet, this is the paradox confronted by the systems man who reports directly to a department manager, whose very performance he is striving to *improve!*

This "psychological" defect exists also, of course, in the first condition described above, i.e., the existence of completely independent "local" systems groups reporting solely to their respective department heads. Thus, we have seen how decentralized systems and procedures organizations which lack common leadership and report directly to "local" managements suffer in overall effectiveness.

(3) A third type of decentralized systems and procedures organization exists, which overcomes the basic defects found in the two preceding forms of systems staff decentralization. The key to this type of organization consists of a "functional authority" relationship existing between the central systems department and each local systems group. In such cases, the central staff establishes broad policies, goals, and programs to be utilized by all local systems groups as working guides. Each local systems and procedures unit reports directly to, and clears all work assignments with, the operating manager of the organization to which they are assigned.

This "functional authority" presupposes a high degree of cooperation between the manager of the central systems staff and each department manager to whom a local systems group reports. If a decentralized systems and procedures organization is to be established, the question of "functional authority" must be carefully thought out and agreed to by all members of company management, to lay the ground work for effective performance of the systems organization.[6]

Ideal Placement of the Systems and Procedures Function

Authorities in the systems and procedures field are agreed that the systems function should report to a member of top management. The thoughts of several authorities are expressed in the quotations which follow:

> For effective performance of the systems function, there is much logic in having the system department as a staff unit reporting to the top executive of the company. Since the systems function provides the vehicle for effectuating managerial policy, it should be as close as possible to the sources of the managerial directives if it is to interpret them correctly and quickly insure that they are carried out. The systems function should be as independent as possible of pressure from particular groups in the enterprise. These pressures will be fewer and less violent the higher up in the organization the function is placed.[7]

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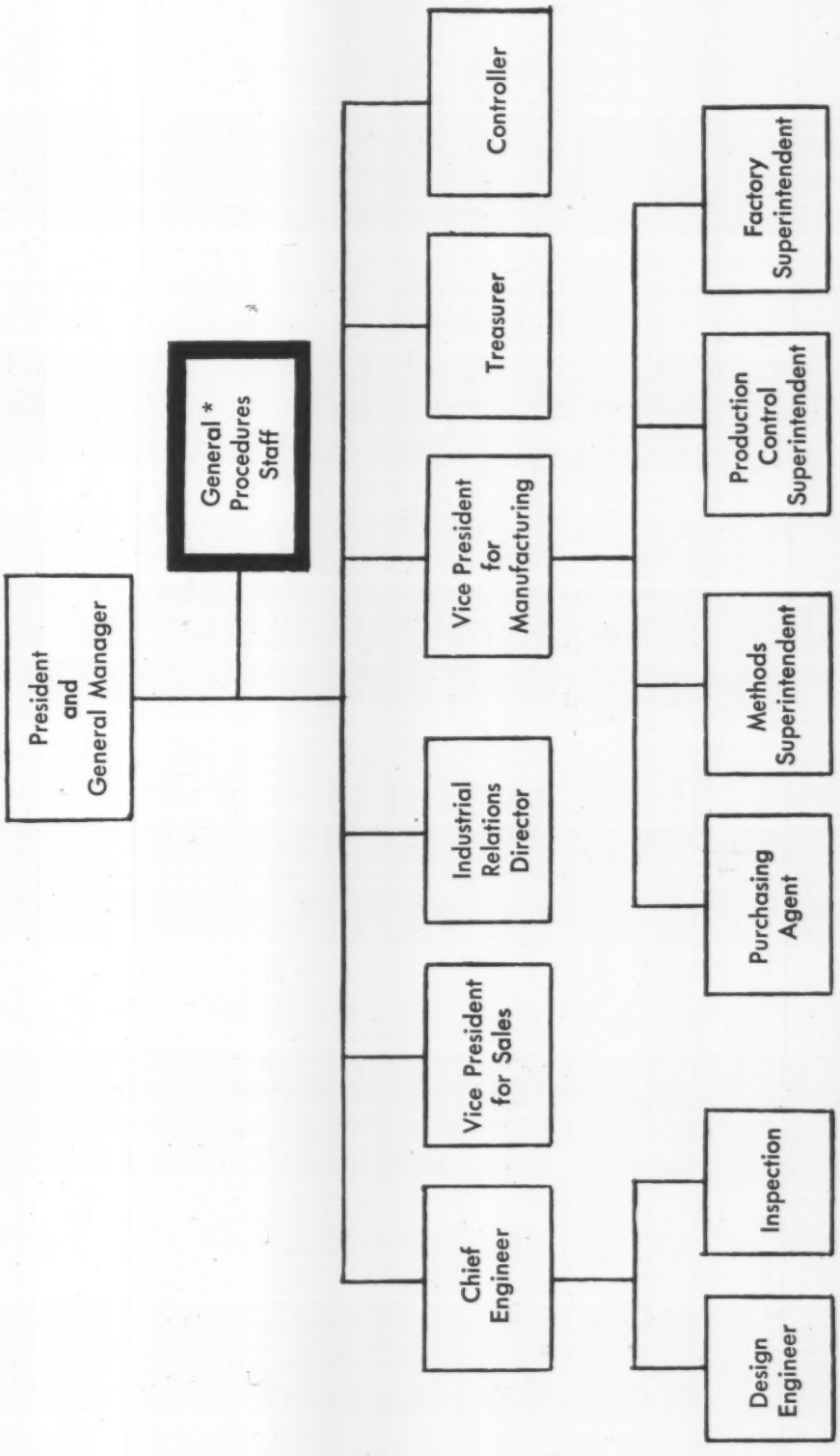
6. Ernest Dale, *Planning and Developing the Company Organization Structure.* Research Report No. 20 (American Management Association, New York, 1952), pp. 111-114.

7. Barish, p. 268.

FIGURE 1

CENTRALIZED SYSTEMS ORGANIZATION



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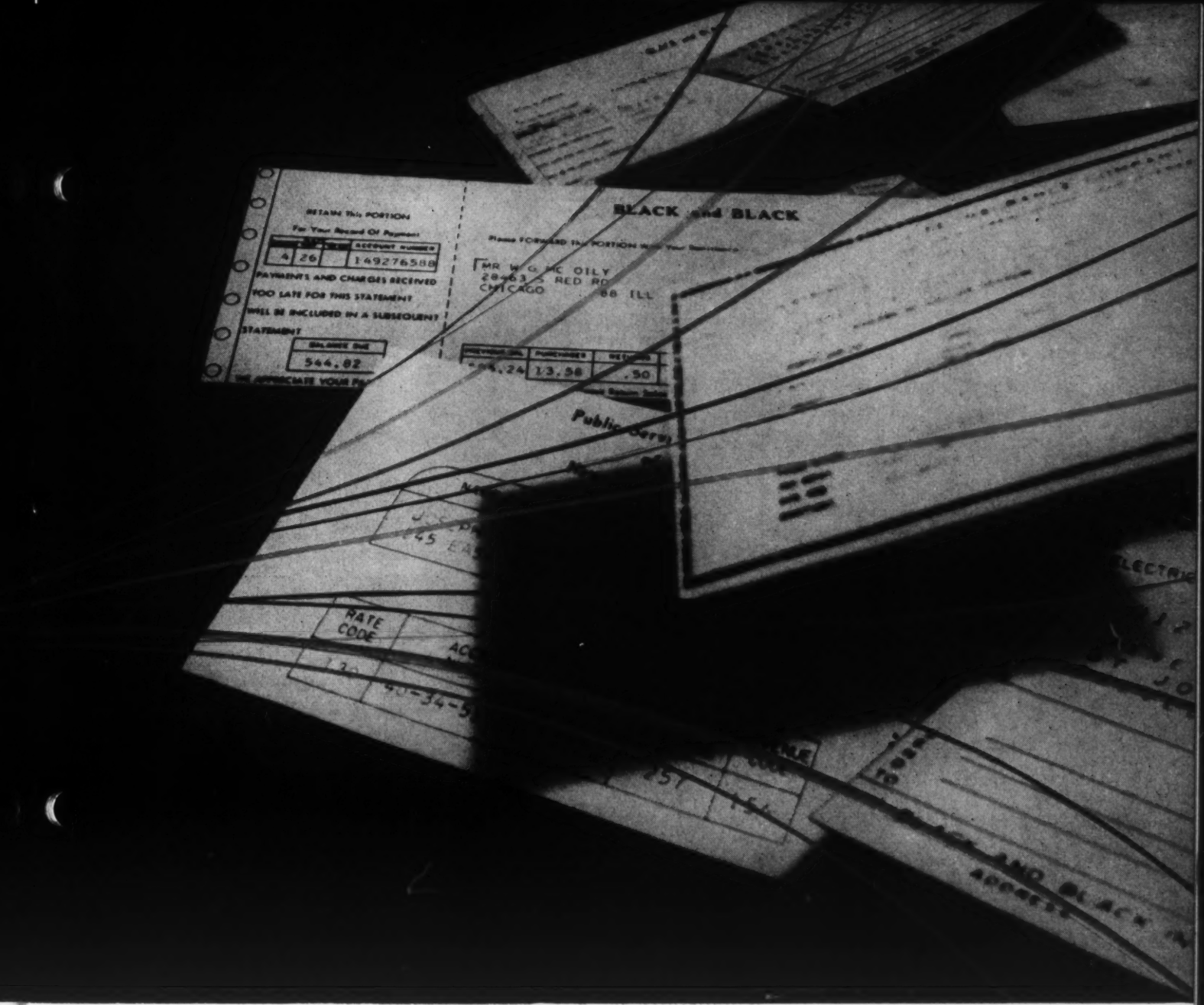

Character Reader numbers directly into the 1401 system

Reading is *optical*—no special inks required. Documents prepared on 407 accounting machines, 1403 printers, typewriters equipped with IBM 407 type, or credit imprinters with elongated 407 type, are the "reading matter" for the 1418. Since your 1401 computer controls the feeding of documents into the 1418 reader, you can get either continuous or interrupted feeding for special processing.

Depending on your needs, there are two 1418 models to select from. One has three stacking hoppers. For more complex sorting jobs, there's another with thirteen which sorts documents either under 1401 control, or independently.

Optional features include: a second optical reading station which permits two lines to be read on a single pass; a mark reading station for reading pen or pencil marks optically.

For more facts about how the 1418 increases the through-put of your 1401 System, call your IBM Representative.

IBM®
DATA PROCESSING

FIGURE 2

DECENTRALIZED SYSTEMS ORGANIZATION

* Exercises "functional" authority over local units; performs S & P assignments for departments without S & P staffs, on a "service" basis.

Systems and procedures are involved in every (management) decision, action, and accomplishment . . . The development, operation, and maintenance of procedures is a basic responsibility of all levels of management . . . Final responsibility for procedures, however, rests upon the chief executive (who) is not in a position to carry out this function personally . . . As a result, the assignment and responsibility for developing and coordinating a systems and procedures program should be provided for in the organization chart and staffed with a competent head. Preferably the systems function should be placed in a position reporting directly to the chief executive officer.[8]

For the systems staff to reflect the corporate viewpoint, it must report to a person whose function and viewpoint are also corporate. This may not be the company president, but it should certainly be someone in the upper management circle. His allegiance should not be with a specialized segment of the company, such as manufacturing or accounting, for such an alliance would entangle the systems effort in the web of departmental specialized interests.[9]

As an advisory group, or as representatives of management, systems personnel need prestige and strong evidence of management support. Although the vast majority of system managers presently report to controllers, it is not desirable to identify the system group with any one department. Much of the work of the systems group concerns inter-departmental problems, and identification of interests with one department may impair the effectiveness of the systems group . . . in establishing the position of the system department in the organization it is recommended that:

(a) The system department should be placed under an executive not identified with one department.

(b) If the system department must be identified with a department, management should clearly state that such relationship is a matter of administrative convenience, and that the activities of the system department are for the benefit of the company as a whole. Management should also appoint an executive outside the accounting department to which the system group may appeal in case of disagreement.

(c) The philosophy of management should be a controlling influence in establishing the position of the system department. Different organizational relationships should exist under centralized or decentralized plans of organization and the extent to which authority and responsibility are delegated.[10]

The organization charts which follow depict two types of "ideal" placement of systems and procedures organization.

Figure 1 represents a centralized systems organization which services the entire organization. In this case, *all* requests for systems work are handled by the central staff.

Figure 2 represents a decentralized systems organization which exercises "functional" authority and control over the departmental systems units.[11]

This presentation should suffice to convince even the skeptic that systems and procedures is most definitely *a top management* responsibility. Consequently it should be so located in the organization, that this relationship is evident to all members of the enterprise.

Once the location of the systems and procedures organization has been fixed, the next task to be faced concerns itself with the question of how to go about *organizing the Systems and Procedures staff*. This will be treated in Part IV of this series, (July/August issue). issue). **s/p/a**

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8. *Ideas For Management*. 9th International Systems Meetings (Systems and Procedures Association, Detroit, 1957), p. 22.

9. Walter S. Athern, "Food Systems Staff is Big Moneymaker," *American Business* (December 1957), p. 14.

10. Frank C. Dykeman, Director of Management Advisory Services, Price Waterhouse & Co., in *Workshop For Management*. Proceedings of the Eighth Annual Systems Meeting (Systems and Procedures Association, Management Publishing Corp., Greenwich, Conn., 1956), p. 150. This work will hereafter be cited as *Workshop (8th)*.

11. An excellent discussion of the pros and cons of functional staff authority is contained in Louis A. Allen, *Improving Staff and Line Relationships* (National Industrial Conference Board, New York 1956), Studies in Personnel Policy No. 153, passim.

Coping with the Negativist

A. H. Malo

▶ A systems man works with things and with people. In this article we propose to review one aspect of his work with people. We have selected as our subject the person who tends to be the cause of considerable irritation and frustration, namely, the negativist. He is the person who says:

"It looks good on paper but it won't work."

"You call this an improvement but what is it going to do to the people in my department?"

"The theory sounds great but it isn't practical."

He is also the person whose thinking may have seemed favorable in your discussion with him, but whose real attitudes come back to you via the grapevine, having expressed himself to his staff with such comments as:

"They don't know what they're talking about, but we have to do it."

"I don't think this a good idea, but they want us to do it so let's give it a whirl."

He is also the manager who insists that the systems man not interfere with the workers in his department. He handcuffs the systems man by setting himself as the only available source of information regarding what goes on in his department.

He is also the manager who is on the defensive because he feels that if someone can come into his department and improve things, then he, the manager, will not be considered competent by his superiors.

In short, he is the man who, in one way or another, says, "No."

Before discussing what can be done when the negativist appears on the scene, let us take a quick look at some of the approaches used by systems men in implementing changes — approaches involving varying degrees of subtlety and which are likely to have an effect on the incidence of negative reactions to their efforts.

There are some general principles which you have no doubt heard discussed very often and which are sound guides for the procedures man who wants to do the best technical job possible and get maximum acceptance from the people involved. One principle states that "The more you get the people to do for themselves,

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the easier it is to get the job done well." In applying this principle, one systems man states that he first goes to work with a committee drawn from the people involved and gets the committee to recognize and define the problem. In working toward a solution, he begins with a sketch, and then he lets the committee work out the details under his guidance. In this process, the three or four people on the committee are the ones who have worked out the solution, and they will want to effect the improvement they have thought through. In other words, they have sold themselves and now constitute a strong nucleus for selling the other people in their department.

There are many other approaches, most of them less subtle, which are made in an attempt to solve a procedures problem. For example, the systems man may be the type of person who can present a problem to a group, let them know how he thinks it can be worked out, let them discuss his solution and suggest improvements in it, and then convince them that they should put it in on a sound trial basis. Or, he may find that he can sell a group of workers on the idea of trying out a procedure which he has developed and then let them suggest improvements as the situation develops. Or, he may be fortunate enough to be endowed with a personality and a recognized technical background which permits him to use successfully a more direct approach such as just simply telling people that from that point on they will be doing some things differently, and they actually follow his new procedure without excessive grumbling or sabotage.

The experience of most of us is likely to verify the fact that the number and intensity of objections to the efforts of the systems man tend to depend considerably on the approach that he uses as well as on his personality and recognized technical skills. However, whether a systems man is direct in introducing his ideas or whether he manages, through varying degrees of subtlety in his approach, to get people to accept his ideas or to work things out by themselves under his direction, the objector is likely to make an appearance.

When he makes his initial stab, how do you handle the negativist?

Do you argue him down? Beat him down with the force of your logic? The average person resents a mental beating as much as he resents being physically beaten.

When you discover a negativist, invite him to talk. Suggest to him that he tell you more about his objections. While he is talking, you listen. In order to keep him talking, we propose that you employ a technique which has been very successfully used in counseling in order to get people to express and explore their negative attitudes. We are referring here to the technique of the non-directive response.

What is the non-directive response?

In making a non-directive response, you try to grasp the main attitude which the negativist is communicating to you, and you restate it in your own words. For example, suppose a worker or a manager has said that your ideas look good on paper, but they won't work. Then you may say to him: "Bill, tell me why you think that this won't work."

Following your invitation to talk, Bill may say: "Look, we tried something like this five years ago, and we confused the accounting department. The people in my department didn't understand what they were supposed to do, and they made all kinds of mistakes. When our stuff got to accounting we sure looked like a bunch of ignorant nincompoops."

What is Bill really saying here? Obviously he is saying that five years ago, a procedure was installed and the people were not adequately trained to use it. The basic negative attitude which seems to be expressed here is his objection to the fact that as a result his department lost status. How would the systems man respond to this? What might be the nature of the conversation as it develops? It may develop as follows:

Systems Man: "I gather that you feel strongly about exposing the people in your department to a change that may make them look like chumps."

Bill: "You bet I do! It's hard enough to get people to do things the way we've always done them without getting them all mixed up in something new. The people we get nowadays are hard to train. Things aren't like they were when I started out in this business. In

those days, you worked for a living and you did your job right."

Systems Man: "You're reluctant to make a change because you feel that you don't want to take a chance on the folks that are being hired today."

Bill: "Take a chance? Listen. I stick my neck out every time a piece of paper leaves this department. If it isn't right, it comes right back. Then my boss bawls me out and if I come back and bawl out my people, they threaten to quit."

Systems Man: "You feel that both your boss and the people who are under you are unreasonable."

Bill: "That's putting it mildly. The other day I told Mary Jane that the accounting department wanted her to initial the sheets where she had checked the totals. So she initialled half of them and the next day the other half came back. When I told her about it she burst into tears. And just about that time old Super himself came strutting into the department and wanted to know what all the commotion was about. When I told him, he said I had to use tact in handling the girls. Why if I used tact, nothing would get done around here. You gotta keep after them all the time or they don't work."

Systems Man: "You feel your workers are so irresponsible that if you don't act tough, they'll goldbrick."

And so the conversation continues with Bill spraying the atmosphere with his negative attitudes. How does all this end?

Our experience with this type of response, which permits Bill a free outlet for his feelings, is that by repeated reflection and clarification of feeling through the non-directive response, Bill gradually gains some insight into his real problem. As Bill continues to look at himself, through the responses that you make, he gradually begins to see his problem for exactly what it is, and he may end up by realizing that what had seemed to be an impossible situation can be lived with if his perspective is adjusted. As Bill succeeds in freeing himself of his negative feelings, you will notice that where the initial expressions of his attitudes were negative, the final expression may be positive. This change in attitudes from negative to positive is your clue that you are making progress with Bill.

The conversation begun above may well end up with Bill saying something like this: "I guess I'm getting too jumpy about every little mistake that goes out of this department. I suppose you can't expect people to be perfect. It burns me up when accounting sends work back because somebody goofed, but I guess they're only trying to do their job. I suppose they get called down for their mistakes too, so if they can live with theirs, I guess maybe we can live with ours."

There are several things to keep in mind as you proceed with non-directive responses to the expressions of feelings of a wrought-up Bill.

1. You have to be very alert to catch the basic attitudes being expressed.
2. You merely reflect or clarify these attitudes by re-stating them in your own words. In doing this, you are acting as a mirror which gives Bill a reflection of himself.
3. In making responses, you have to maintain a "poker face," no matter what Bill says. In other words, you ask no questions, seek no information, give no advice, and do not commit yourself as agreeing or disagreeing with something Bill has said; in fact, you are truly non-directive.
4. You will find that as Bill talks, he gradually begins to reveal what is really bothering him—things that he may have been most unwilling to admit originally, such as his tendency to be an overly sensitive perfectionist.
5. You have to keep in mind that when Bill is expressing any type of negative feeling toward himself or someone else, the natural tendency on your part may be to try to convince him that he is exaggerating the situation. You may be logical in arriving at such a conclusion. You are not being helpful, however, in the pursuit of your objective or in bringing Bill around by trying to reason with him when he is blinded by his feelings.

6. You may find that you will have to spend 30, 45, or even 60 minutes with Bill before he begins to show progress with his attitudes. If, at the end of 60 minutes, there is still no evidence of positive attitudes, then we suggest that you say: "Bill, let's think about this for awhile and maybe we can discuss it some more next Tuesday."

Is it worth your while to spend the time needed to bring Bill around? If the results are favorable, we can argue that the time has been well spent. How often have you spent 60 minutes trying to argue the merits of a new procedure only to find yourself at the end of the hour still at about the exact place where you started?

We are recommending the use of the non-directive response mainly with one type of person—the one who exhibits intense feelings through expressions of criticism, frustration, confusion, anger, discouragement, inadequacy, or some other emotionally charged condition. If you happen to be dealing with a person who is obviously objective in his evaluation of a suggested procedure, the non-directive response may well be a gross waste of time which could be better spent in a fruitful discussion of pros and cons.

Conclusion

Consider carefully this guiding thought: *In a situation which you suspect is emotionally charged, be non-directive.* After you have made a few non-directive responses, you will be in a position to determine whether you should continue. Until you are very sure of the emotional state of your Bill, pursue the conversation with non-directive responses.

You will find that this is not an easy technique to use, particularly at first. You will have to work at it to become skilled in it. We have to remember always that it is not just a stroke of good fortune that causes some system men to work effectively with people while others always seem to be in difficulty. A competent systems man uses every tool available —and the non-directive response can be one of his very effective tools in dealing with the negativist. **s/p/a**

THE INTERNATIONAL

SYSTEMS MEETING

1961

HOTEL STATLER **HOTEL PICK-CARTER**

Cleveland, Ohio

October 8-9-10-11, 1961

Why Most Speeches Fail

Wilbert E. Scheer

▶ An award-winning and popular speaker tells why most speeches fail.

* * *

Our country is a public speaker's paradise. People in all sorts of organizations seem eager to listen to someone delineate a topic. Subjects range from peaceful uses of atomic energy to the life and love of zebras in Africa.

Why do so many busy men and women sit passively with hands in lap while someone expounds? Are some merely trying to get a night out or escape from the monotony of playing cards or watching TV? Many undoubtedly are seeking satisfaction by "participating" and thereby supporting a worthwile cause.

Associations and professional organizations of all types hold meetings and conventions which feature speakers. The subjects are often technical and relative to the interests of the group. General subjects are justified on the theory that members should broaden their outlooks by exploring unfamiliar fields. In some situations the subject matter makes little difference since the members are merely enjoying a social night out, with the companies picking up the tab.

Since people in an audience usually accept those ideas with which they agree and reject those which are contrary to their own personal prejudices, a speaker tries to be careful not to offend. In an effort to be amiable more than effective, he tries to entertain. He therefore feeds the group, as eloquently as he can, a diet as bland as pap. If he is entertaining enough, he may be applauded, even enthusiastically. Then the listeners return to their homes and jobs unaffected by what they heard. In fact, few can even recall the next day more than a story or two of the presentation.

This is the speech-making business as it exists today in these United States. Many persons who attend meetings and conferences regularly may be quite content with it. Those, however, who seek improvement must ask where the fault lies and how changes can be made.

The Ingredients

There are three ingredients to a meeting: each contributes to its success or failure. They are: (1) the audience, (2) the program planners, and (3) the speaker. Not much needs to be said about the audience except possibly that part which stays away, leaves early, or is not present during the speech. The audience usually has little to say about the choice of speaker or his topic. For the most part, it is faithful because of respect, loyalty, or habit. This is certainly true when the speaker and his message fail to inspire or communicate a thought-provoking message. And, there are times when an audience does not really appreciate a capable speaker who has labored long to prepare a paper. It is indeed unfortunate when such a speaker appears before an audience that is in a party mood, more concerned with libation than with thought-provoking content. This points up the significance of the second ingredient of a meeting — the program planners.

The program is generally planned by a committee and unfortunately in many cases, because of the pressures of time or diversity of

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interests, the program is thrown together. Things which impress program committee members are too often big names in big companies. They are usually attracted by the president of a corporation, if he can be induced to appear, although Mr. Big may not have established himself as a speaker. They hope the magic of a prominent name will swell attendance. The possibility of short-changing those who attend is not given much thought.

The usual practice of a program committee is to hold a meeting at which all sorts of names, titles, and topics are bandied about but specific conclusions are seldom reached. Then, with time running short, the program is "put together" with whatever talent is available and within the confines of a limited budget. When the facts are faced, the speaker was "selected" because:

1. He is known to be available.
2. He likes to talk.
3. He is a good story teller.
4. Someone knows how to get in touch with him.
5. He is recommended by a vague third party.
6. In the interests of good public relations, his company likes to have him cooperate with groups.
7. He has a particular service or product to promote.

He is available; whether he has a message of particular interest to the sponsoring group is not really considered. The program chairman often tells the speaker to select his own topic. This is obviously a dangerous practice. Some speakers, having attained prominence on one limited subject, cannot resist trying to become "experts" on other far-flung topics. Even when a program committee specifies a subject in accordance with some loosely defined overall theme, speakers are not necessarily chosen because they are qualified to speak on the subject. Instead, they are chosen because they are available, or willing. Hence, they make the committee's thankless job easy and they also, coincidentally, fit the budget.

This matter of budgets causes many program planners to be short-sighted in fulfilling their responsibility to the group they represent. They do not hesitate to add a premium to the cost of the meal to cover "expenses" for decorations or extras, yet they express amazement when a qualified speaker asks a fee. Many program chairmen sincerely believe they should not pay for a speech. The same people who would not give away their products or render their services free, expect a speaker to do so with his talents, preparation, travel, and time. They think a speaker should be grateful for an opportunity to ventilate his views. On the other hand, what a program chairman considers a privilege, a qualified speaker usually considers to be a chore, even when it is a pleasant one. When a speaker is paid nothing, the listeners should not be surprised if they get nothing.

In spite of the above, however, most of the fault for poor speeches can be laid at the doorstep of the speaker himself. Even when the program committee has selected carefully and the audience is receptive, many speeches fail to serve their intended purpose because the speaker or discussion leader does not produce. The truth is that few people can make a good speech.

Good Speaking

Good speaking requires more than an ability to use words. It involves a good message, a good voice, and the ability to project a personality into an audience. A speaker, who cannot use his personality to help put his thoughts across, is at a serious disadvantage. To be effective, a speaker must: (1) be prepared, (2) must be able to present what he has prepared, and (3) must have something to say.

Not many men or women who ascend a platform to give a speech know how to prepare a message. They use warmed-over and half-formulated ideas. Often they try to say too much and do not pin-point important items with meaningful illustrations.

The message and manner of presentation must be tailored to each audience. The type of audience makes a difference in the way the message is delivered. So does the time of day. The place on the agenda should be considered;

an opening keynote address at a conference calls for a different approach from that of a late afternoon bread-and-butter technical session. A luncheon talk may be intended as a "change of pace" whereas an after-dinner speech may need to be either humorous or serious and on a topic of widespread interest. The make-up of the audience determines, therefore, the way a talk should be prepared. Material, such as advice on how to succeed in business, must be rearranged depending upon whether the message is directed to businessmen, secretaries, technicians, machine operators, bank women, scientists, or students.

The mechanics of "packaging" the material of a speech must be understood. Some speakers start too soon. The playright postpones a crucial line of the dialogue until he establishes an "arc of attention." A speaker, likewise, should not get into the "meat and potatoes" of a message while his audience is still tuning in.

The style of presentation depends considerably upon the time available. For the usual half-hour presentation, a lecture-type delivery may be all right. But a speaker should not expect an audience to listen to a lecture for an hour or more. A presentation can be varied with "gimmicks" — flannel boards or blackboards, hand-out material, demonstrations, and exhibits. The presentation may be interspersed with questions from the floor. If the group is small, the speaker may want to engage in a discussion-type presentation involving members of the group.

Much of a speaker's success depends upon his ability to organize the material to suit the type and size of audience. In preparing his material, he must try to pre-judge as much as possible the nature of the audience and what it wants. A skillful speaker is like a good organist, playing upon the keys of human nature.

A speaker's platform manner should reflect sincerity, for if the people cannot believe him they will not believe what he says. They must accept him as a person before they will accept him as a speaker. They expect him to display an air of authority but not superiority. They must look to him as someone worth hearing. A firm, well-organized beginning denotes confidence, preparedness, and poise. An apologetic beginning indicates uncertainty and introduces a negative element.

To speak effectively, one must practice. Critical self-analysis before a mirror or with a tape recording can be very useful. Eliminate mumbles, slurs in words, cut off sentences, or monotone. An unpleasant voice irritates and distracts. A succession of "ahs" causes the listener to focus his attention upon the speaker's inadequacies. Starting too many sentences with "now" is distracting. Reading a speech results in a monotonous presentation that even the most conscientious listeners find hard to follow. Yes, when an audience does not listen, it is the speaker's fault. When an audience falls asleep, it is time to awaken the speaker.

No humor may be bad, but the misuse of humor is worse. A speaker should not pretend to be a comedian until he becomes one, in which case he will probably forsake the speaker's platform for Sunday night television performances. A good speaker has learned the drama of the emphatic pause, the humorous story with a point related to the message, and the sudden change in voice.

While all the above are important, most important is that the speaker have something to say. It is tragic how often a speaker sends his audience home empty-handed because he came empty-headed. A shallow message insults the intelligence of an audience. The name of a speaker may attract but only a worthwhile mesage will impress. The chairman of the board who hopes to satisfy his audience by recalling days gone by merely makes them wonder whether his success is due to his memory or his family's inherited wealth. The company president who refers vaguely to "the challenge before us" without identifying it or without considering a possible solution, encourages people to stay away from the next meeting no matter how attractively the program chairman bills it.

To "deliver," a speaker needs more than an impressive title, personal charm, or a build-up by the master of ceremonies. He has to have something to say. He has to believe in what he is saying. His enthusiasm must be genuine. Actually, the only speaker worth listening to is the one who is crusading.

A Responsibility

A speaker accepts a tremendous responsibility when he agrees to participate in a meeting. Multiplying the number of people in attendance by the amount of time and money each has spent to be present, the obligation comes into perspective. The speaker who does not prepare his material, who has not learned how to present it, and who does not have a message worth listening to is the reason "Why Most Speeches Fail."

The above points are illustrated in the following story: A man once accepted a ride with a friend and his family who were driving his way. En route, they stopped at a service station to pick up a spare tire left there for repair.

The guest, trying to make conversation, asked the driver if he knew how much the tire weighed empty. "Fourteen pounds," said the driver. The guest then asked, "How much air was put in?" "Thirty pounds," was the answer. "And how much does the tire weigh now?" he asked next. The driver said, "As long as our daughter is going to high school and learning such things, let's see what she says." She answered, "Forty-four pounds." The father commented, "See, she doesn't know the difference between air pressure and air weight." Whereupon the mother said, "I don't see what's wrong. If it weighed fourteen pounds empty and had thirty pounds added, why wouldn't it weigh forty-four pounds?"

The guest felt that the father should not make sport of his family's error. "It's a common fallacy," he explained.

The same error is often made in judging speeches. A speaker who inflates his speech to fill a specified period of time, say an hour — should realize that there is no weight to wind.

s/p/a

How To Make A Good Speech

1. Acknowledge your introduction graciously. Recognize the chairman and other dignitaries at the head table. Greet your audience.
2. Start off smoothly. Never begin apologetically. Try not to be clever lest you be corny. Take a few sentences to warm up the speaker and the audience.
3. Don't "read" your speech. Be familiar enough with the contents of your paper so you can maintain eye contact with members of your audience.
4. Don't memorize your speech. This makes it sound canned and unreal. Select some persons in the audience and talk to them as individuals on a personal basis.
5. Don't talk "off the cuff" and expect to have a well-balanced presentation. Use organized notes to avoid rambling and unnecessary wordage.
6. Use illustrations. It helps if they are funny or catchy, but don't tell jokes which are not pertinent to the topic.
7. A degree of nervousness, even for the "pro" can endear a speaker. Listeners respect a speaker who has obviously worked on his material and presentation.
8. It doesn't hurt to jolt the audience occasionally. The speaker is working; the listener is sitting passively and may let his mind wander. Bring him back with a question, anecdote, quotation, poem, or similar device.
9. Stay within the prescribed time limit and quit when you're through. A summarization of what you've discussed may be in order. A fast windup can be effective.
10. Don't follow a standard pattern, such as may be implied in the well-intentioned suggestions given above. Accept them for what they are — suggestions — and adapt them to your own personality, to the situation, and to the audience. Like any formula, the rules for making a good speech must be individualized for each speaker and occasion.

Games

Roger L. Sisson

▶ This article discusses the use of "games" in operations research and management science.

Illustration No. 1 depicts a procedure for model making, an integral part of operations research and indeed of any careful thinking process. The goal is to develop some rules, as noted on the right of the illustration, for taking action to control some specific situation in the real world, shown on the left. The first step is to create a model of the situation. This may be done in one's head or in other ways which we shall discuss later. The model having been created and studied, is manipulated for optimum results and good decision rules. These rules together with other information (most models are not complete) are used as a basis for action to reach the desired results in the real world.

Illustration No. 2 is of a process similar to Illustration No. 1, but the object is to educate a person with regard to certain features of the real world rather than to solve a specific problem. We call this process *educational gaming.* Here several areas in the real world are observed to have common features. These features are abstracted and a model is created. The model is not like any particular real world situation. It is representative of several of them and, if properly designed, is realistic enough to serve as an experimental sample of a real world situation. A student is told that the model is "the real world" and is asked to develop rules, make decisions, and initiate action to control the model as if it were real and as if he had an objective, say to make a profit. In "playing the game" a student will create a model of the model as shown by the dotted circle. He will study the latter to help develop rules which will guide his actions in making the game model perform as he desires. This process is a powerful one for educating people to an understanding of complex situations, such as businesses or military maneuvers.

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Mr. Sisson holds BS and MS degrees in electrical engineering from the Massachusetts Institute of Technology. He has had ten years' experience in the design of digital computers. He has worked on the development of analog digital computer techniques, the design of data reduction systems for missile test range, and on the development of timing equipment for missile firing applications.

Mr. Sisson has written a number of papers about data processing systems in commercial applications. He is a member of the Institute of Radio Engineers, the Association for Computing Machinery, the Institute of Management Sciences, the American Mathematical Association, Tau Beta Pi, Sigma Xi, and Eta Kappa Nu. His book, Dynamic Management Decision Games, (co-authored with Jay Green) was published by Wiley.

MODEL MAKING

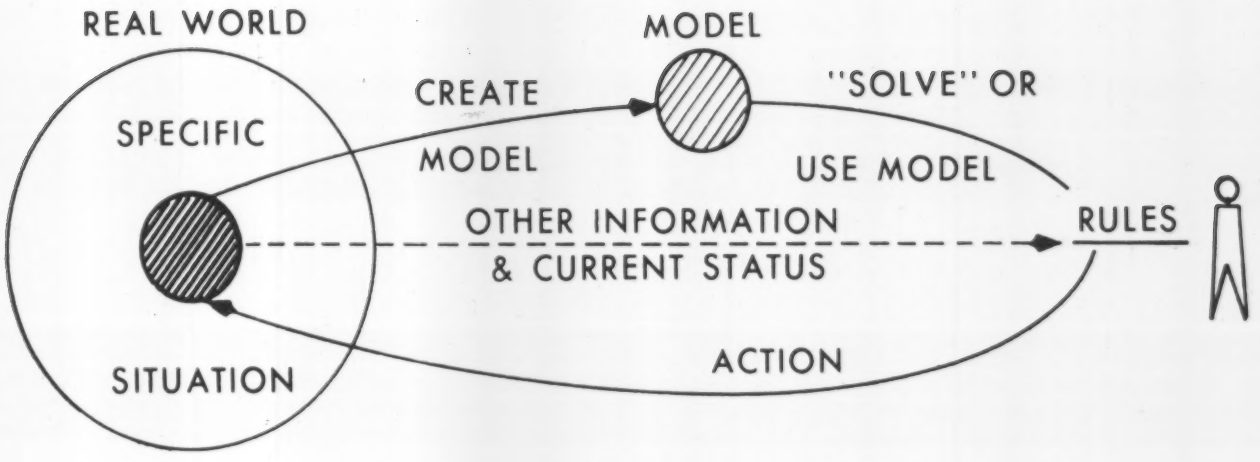


Illustration No. 1

A symbolic model can be created with mathematical symbols representing the various factors which correspond to events in the real situation. We can also model by simulation or by creating a physical analog such as a wind tunnel or an informational model, either on paper or in a computer. In the latter form, the relationships we postulate to exist in the real world are made to exist between the symbols on paper or in the rules for manipulating data in a computer so that the procedures experimented with in the model are more or less equivalent to those in the real world.

A number of useful symbolic models are common enough to be named: linear programming, queuing theory, and the *theory of games*. The theory of games is a mathematical formulation which is especially useful in representing competitive situations. In some simple cases, the formulation may have specific solutions. This is a second use of our word "games."

Various formal methods of manipulating models are generally referred to as operations research. Another method is simply judgment. Having a model in mind or on paper, one can observe it and mentally manipulate it until the desired insight is reached or some specific rules are established. More analytical methods depend upon mathematics and logic. We *deduce* from a model certain results which optimize objectives such as profits. From these results we develop decision rules.

If formal methods fail, we may try to obtain optimum rules by repeated trials using the model. That is, we may try a variety of random inputs and parameters to determine which set of rules gives the best results on the average. One method of using repeated trials is known as the Monte Carlo method and is a well-defined statistical procedure. Repetition (especially in complex situations where the statistical procedure is not too well defined) is also called *operational gaming*. This latter term applies especially to competitive situations and is a third use of our word "game."

Illustration No. 3 relates the models to methods of solution. It is perhaps true that

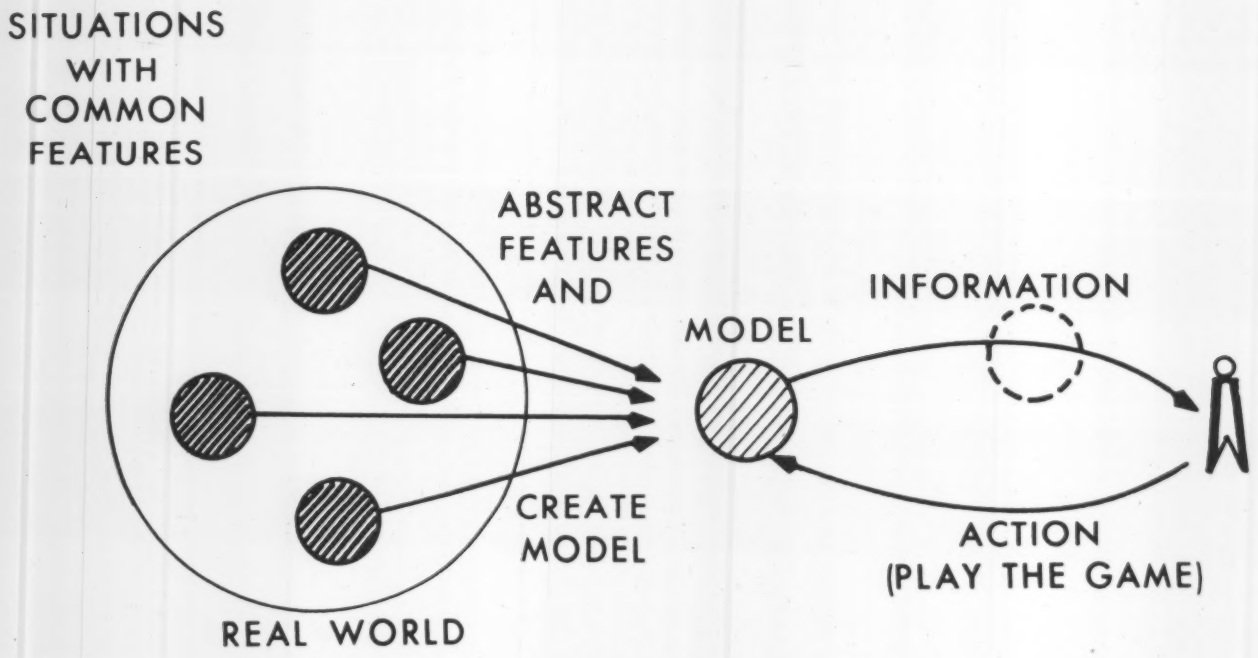


Illustration No. 2

the brain makes many trials; that is, uses a Monte Carlo technique in arriving at its judgments, but we do not know much about this so we say we solve mental models by judgment.

Mathematical models on the other hand, may be solved in some cases by strict analytic procedures. Where known procedures do not exist, it is possible to solve the equations by repeated trials — Monte Carlo. Where we develop a physical simulation or an analog, we may observe the analog and use judgment to arrive at decisions, or we may make repeated tests of the model — Monte Carlo. We may also look at information models (or the outputs from them) and use our judgment to gain insight or arrive at rules, although this is not common. Most commonly, informational simulations are solved by operational gaming.

To summarize the above, then, there are three uses for the word "games":

1. To describe the process of creating a general model which is used for educational purposes: *educational games.*
2. To describe a specific mathematical formulation useful in representing competitive situations: the *theory of games.*
3. To describe a procedure for solving simulation models by repeated trials: *operational games.*

These three uses are interrelated. For example, it is possible to represent some educational game situations by theory of game models; it is possible to solve theory of game models by operational gaming techniques; it is educational to carry out operational gaming procedures. Nevertheless, *there are basically at least three different types of "games" and they should be kept distinct when discussing the value of operations research and educational techniques.* It is interesting to consider the value of these techniques to the practicing business manager at the present time. The theory of games, although of good research value, is probably of only limited use to the practicing business man. It must be handled by qualified mathematicians and must be applied properly to the situation under study.

SOLUTION METHODS FOR MODEL TYPES

SOLVE MODEL

CREATE MODEL	JUDGMENT	ANALYSIS	MONTE CARLO
MENTAL	✓		(✓)
MATHEMATICAL		✓	✓
SIMULATION-PHYSICAL	✓		✓
SIMULATION-INFORMATIONAL	(✓)		✓

(✓) LITTLE USED

Illustration No. 3

Even where a model applies to a problem, it is difficult to arrive at a solution except in the very simplest, and often, therefore, unrealistic situation. The simplest version of the theory of games is linear programming. This is, of course, a useful technique in many business situations. However, more sophisticated applications of the theory of games should be considered as *research* at the present time.

Operational gaming is a useful technique providing that the practicing businessman is willing to invest fair amounts of money in the data-gathering and model-building procedures needed to create the information simulation; despite the realization that the return is uncertain. Where this is possible, and skillful practitioners are in charge, useful insights and decision rules can be obtained from a model used in operational gaming. The technique should be considered by those attempting to apply operations research to complex situations. The investment is risky, but the payoff can be very high.

Educational gaming is of great and immediate value to all business people. It is an easy means of teaching decision-making processes and techniques and stimulates self-confidence in decision-making itself. It is especially useful in teaching the fact that models are valuable. It is a means of getting experience in their use. Educational games can be inexpensively devised, often requiring just a few man-months.

One may think of educational gaming as a laboratory situation which can accompany management training or university business courses. Educational games are useful, for example, in teaching a group about inventory control procedures. They can be used in such specific situations as teaching a department store manager about inventory decisions in a particular type of retail business. However, the step between an educational game which is an abstraction of a particular business and a useful simulation of that business for decision-making is a gigantic and expensive step and should be undertaken with care. Fortunately, however, the educational value of simple games appears to be worthwhile*, even when not exactly realistic.

Two typical educational games which the author has used, involve the EOQ model and a mental model (a negotiation game). When using the first, the student is given information each period, about the quantity of an item on hand, and the demand for the previous period. To reorder he must use this information plus some cost information.

The negotiating game is a more complex situation aimed at teaching students how to negotiate purchase contracts. It uses five teams. Two represent manufacturers and three represent wholesalers. The manufacturers buy raw material at a price that has a changing level. They process the material with certain costs and then sell it to the wholesalers. The price and quantity discount arrangements made between the wholesalers and the manufacturers is unrestricted and a part of the game. The wholesalers then handle the material, with certain costs, and sell it to a retail market which is represented by the game environment.

The first of these games permits the teaching of an analytical solution; the latter, the teaching of judgment solutions. It is conceivable that an analytical solution to the negotiation procedure could be obtained, but this is not the point of the game.

It is hoped that the above review of gaming situations, and models for management decision-experimentation, will clarify the use of the word "games" in operations research and will encourage systems men to experiment with this technique. **s/p/a**

*Refer to *Simulation: A New Tool for Management Education*, in the January/February, 1961, issue.

Anthony Ross

The Theory of Linear Economic Models, *by David Gale; McGraw Hill Book Company, Inc., New York, 326 pp.*

The book presents important areas in economics which can be analyzed by use of linear models.

The cogent and lucid presentation provides most of the mathematics required to understand the higher mathematical concepts, such as models and matrices, developed in the writing.

The central concept that is used as a point of departure in the text is the concept of economic equilibrium.

Concrete examples are interspersed advantageously in the text which makes the subjects

covered meaningful to the reader. Among the subjects covered are: linear programming; the theory of two-person games; static and dynamic theory of linear exchange models including problems of equilibrium prices and dynamic stability; the methods of play; optimal strategies; and solutions of matrix games.

Perhaps the chief weakness of the writing is its lack of consideration of non linear functions which more often tend to fit reality in economics.

This book must be considered a basic, introductory writing, a prelude to more detailed survey and reading by interested readers and students of economics and mathematical tools and techniques. (Reviewed by Edward A. Tomeski, Socony Mobil Oil Company, Inc.; Lincoln Center Chapter, SPA).

Accounting Systems (2nd Edition), *by Cecil Gillespie; Prentice Hall, Englewood Cliffs, N.J., 641 pp., 1961, $12.*

An old, close friend to most systems people has been toned up and given a new, up-to-date look. There is probably no one book which has served so universally in authority for systems analysts as the first edition of Gillespie's *Accounting Systems*. No longer unchallenged, the new second edition is nevertheless destined to hold its own among other systems volumes as a primary, authoritative reference for every day problems, on-the-job systems training, and university courses.

Sections on the systems function are brought up to date in light of the developments in this area over the past ten years. Similarly, discussions of accounting equipment have been thoroughly modernized. In addition to bookkeeping and other machines utilizing a paper tape or direct-to-punched card attachment feature, this edition modernizes its description of punched card accounting systems. A new valuable chapter on cost accounting has been added, and three chapters on EDP principles, programming, and equipment are also new.

The modern illustrations are most gratifying despite the wistful realization on the part of the reader that they too will be out of date long before the pages start to get that used look. The accountant's approach still causes the systems man to wish that more concentration could have been afforded to the total systems philosophy. However, there is little doubt that the second edition will receive no less daily reference than did the original edition over these past ten years. (Reviewed by Richard W. Reynolds, F. W. Lafrentz & Co.; Lincoln Center Chapter, SPA).

Men, Money, and Motivation, *by Arch Patton; McGraw-Hill Book Company, Inc., New York, 233 pp., 1961, $7.50.*

Every so often a book appears that shakes the rafters. Such a book is Arch Patton's *Men, Money, and Motivation* which questions how effectively corporations motivate their executives.

In many companies, the way managers are paid may actually deter them from doing a vigorous job!

Arch Patton's major thesis is simple indeed:

> For a company to succeed (get out in front and stay there), it must *demand* that its management meet competitive challenges. And the tool to create this demanding environment is *executive compensation*, if well and amply used.

But oh! What an impact this little book can have on today's corporations. For Patton traces how this tool — executive compensation — can help attract men competent to accomplish company objectives and help motivate them to seek greater responsibility.

Here's a book that's hard for *any* management man to put down. It's well-written, a delight to read. It should be of prime interest to the chief excutive who wants his firm to prosper. It should certainly be dear to the heart of any management (high, middle, or low) who wants to be motivated by dirty old money.

According to Patton, there may be motivations other than money — such as status, group approval, and desire to excel. But these non-cash motivations are all measurable in terms of monetary reward. The high tax bracket man who ranks prestige over money,

glories to see his salary hit six figures — if that spells prestige. Or position on the bonus list may mark his status. "A title on the door rates a Bigelow on the floor" — purchasable in coin of the realm!

The value of a high executive lies in the decisions he makes and influences (not where he reports, or what papers he processes) that increase or decrease company profits. In addition to his contribution to decision making, his paycheck depends upon the size company he's in, the industry, and his company's executive-pay philosophy.

The organization of the compensation structure is usually the key to the firm's personality and philosophy. Basically, there are two types of compensation structures:

> The "steep-pyramid" type — the hard-hitting Neanderthal-type firm that wants to go places and make profits. The steep-pyramid compensation structure is patterned after the entrepreneur-worker relationship. Here the chief executive's pay is high — sharply higher than his subordinates (and theirs are substantially higher than their subordinates). The steep-pyramid firm seeks the best man for the job (by promotion *or* by hiring), expects him to produce or be fired. Decisions are made by the individual. Because there's more risk in a step up the ladder, there is more money to pay for the risk.
>
> The "flat-pyramid" type is the placid, "fat-cat" company that is in a stable field, with little competition and few hard decisions. In the flat-pyramid compensation structure there is less spread in pay from top to bottom. Committee management is a hallmark; responsibility for decisions is spread; compromises are the rule. At top, there's less reward, matching less risk—yet there may be overpayment to subordinates. The company is marked by overconservatism, slow decisions, promotion by length of service.

Do both these types perform equally well? Patton says there's a growing body of evidence that company profits are maximized by:

> Paying above-average compensation to executives, and holding them accountable for above-average results.

Having made his main thesis (pay them well, as they produce), Patton then goes on to examine how best to build a compensation philosophy and administer it. He mentions that the effect of high taxation on incomes has led to numerous compensation gimmicks, many adopted as separate entities, without thought to the effect on a firm's overall compensation program. Apparently the day has come to re-examine the overall program — particularly since:

> About 23 per cent of payroll now goes to fringe benefits that are related to salary and do not reward outstanding performance.
>
> Merit increases often are more "general" than "merit."
>
> Bonuses frequently do not reward.
>
> Promotions may be based on years of service.
>
> Incentive plans may be destroyed by poor administration.

The rest of the book is a "how-to-do-it" discussion of the steps needed to apply an effective executive compensation program. This includes: pricing the compensation structure; determining the basic motivations (straight salary plus incentives); administering the salary program (considering the dual nature of salary where there is no incentive plan); developing a sound promotion program; administering the incentive plan; appraising executives in terms of long term and annual goals for the company and for their function; and, finally, developing a demanding environment that will make competition a way of life for a company.

Certainly, nothing new or startling in the basics of this book. But Patton (a director of McKinsey and Company, and a pioneer consultant in executive compensation) has stated his case forcefully and well. He's crammed the book with well-marshalled facts, charts, and graphs. Most important, he's made a good case for his main argument:

> Executive compensation is a leadership tool
> That creates the demanding environment
> That companies need to have for success.

(Reviewed by Robert C. Weisselberg; Long Island Chapter, SPA). **s/p/a**

THE PERFECT SYSTEM

Is there such a thing as a perfect system? If there is, it implies that this is the ultimate—there can be no further improvements. Can this really be so? The answer is NO. In a particular organization, at a specific time, the efficient implementation of an effective system would live up to the term of a perfect system. However, it would be short-lived because no organization remains completely stagnant or inelastic. Even if it tried, it could not, for the areas within which it operates exert dynamic influences to which the organization must be responsive or it collapses.

The perfect system is geared to adjust to economic imbalances, competitive intensity, organizational changes, etc. It *must*, in order to cope with these changing needs and conditions. The perfect system must plan as much for the future as possible so as not to impair the *continuing* effectiveness of the perfect system.

It is primarily a continual pre-planning with an element of reaction. The more effective the former, the less the necessity to resort to reaction, but this reaction element can never be entirely eliminated. The perfect system is not a particular system, rather it is a continuing awareness and application of the latest developments of tools and techniques to the current and future needs and demands of the organization.

An organization knows it has the perfect system for that particular set of circumstances when it receives these answers to the following questions:

Q. When does an organization achieve the perfect system?

A. At that point in time wherein the projected (planned) requirements of the organization are met and satisfied by the planning done at a point in time prior to reaching these needs.

Q. Is it the best possible (perfect) system?

A. It best accomplishes the defined goals for this set of requirements within the parameters of cost, time, service, and internal controls of audit and quality.

Q. How does an organization recognize this (perfect system)?

A. Concurrent assurances are secured both *within* and *without* the organization that there is no currently devisable better way.

Q. How long will it be effective and what are the guides to determine the length of effectiveness?

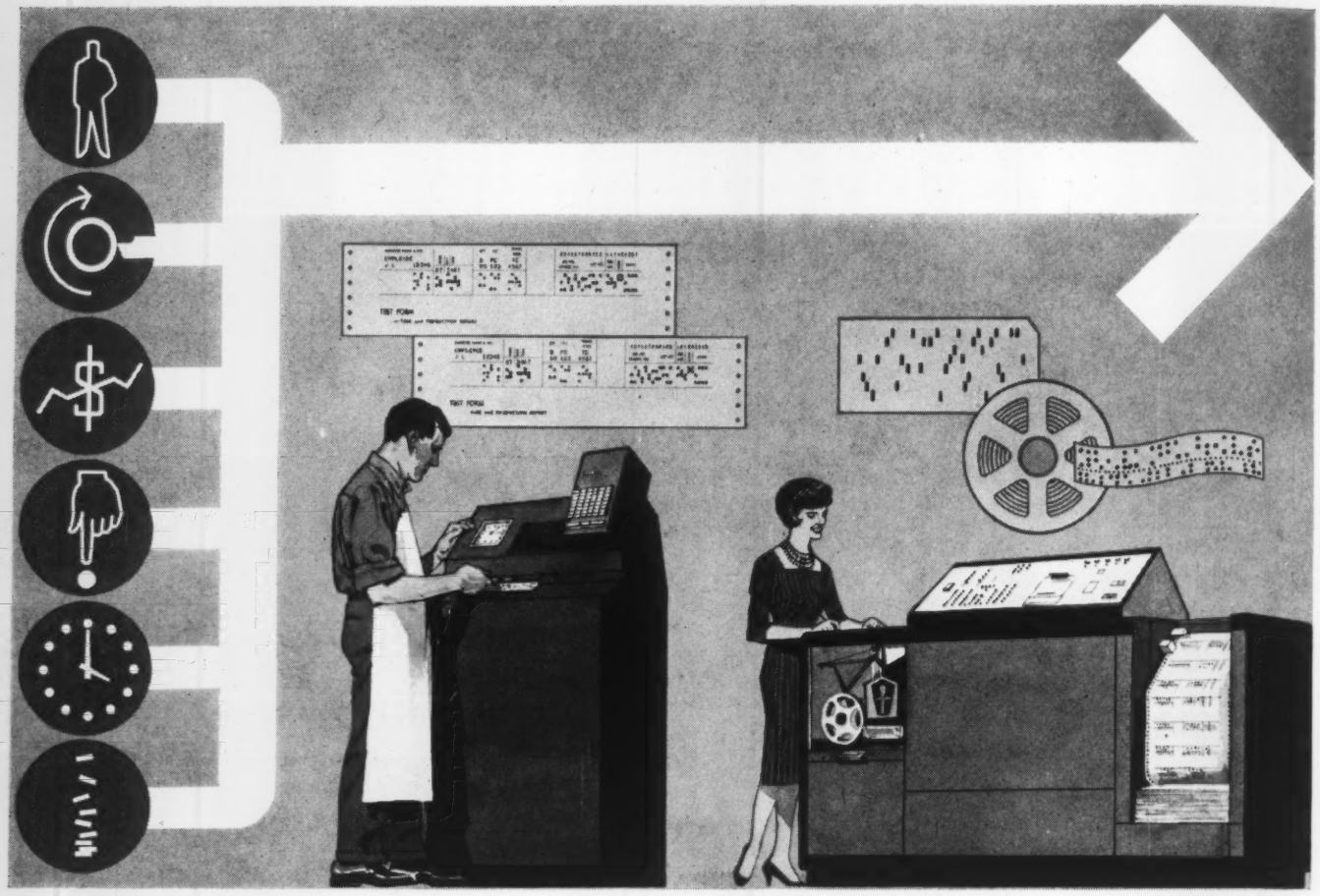
A. There are some uncontrollable influences of long- and short-term duration. These are centered around social, political, and economic forces on regional and national scales which are beyond the sphere of direct/indirect influence and control of the organization.

The controllable influences will result from research and development application results. Hand in hand with this is a realistic and impartial evaluation of the competitive situation in which the organization must perform. Finally, through all levels of management and pervading the employee ranks there must be a continual awareness—dedication, almost—of the goal of the organization and final acceptance of the agreed-upon methods to achieve and sustain this goal.

The personnel concerned with the functions of the perfect system are, quite obviously, systems and procedures personnel. They are *actively* aided and assisted by their top management personnel, and they incur no resistance from operating units whose efforts they are making more effective.

The perfect system, then, is: Geared to Changing Needs
Ever Adaptable
Abreast of New Thoughts, Tools, and Techniques.

Any organization operating with these methods under the conditions defined HAS the *perfect system*. (*Mortimer J. Sullivan, Management Consultant, Tuckahoe, New York*). **s/p/a**



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